1. $y^{'}\left(x\right)=\frac{\left(tgx\right)^{'}\left(x^{3}+1\right)-tgx(x^{3}+1)'}{(x^{3}+1)^{2}}=\frac{\frac{1}{cos^{2}x}\left(x^{3}+1\right)-tgx\*3x^{2}}{x^{6}+2x^{3}+1}=\frac{\frac{x^{3}+1}{cos^{2}x}-3x^{2}tgx}{x^{6}+2x^{3}+1}$
2. $y^{'}\left(x\right)=\left(sinx+cosx\right)^{'}\left(x^{5}-3\right)+\left(sinx+cosx\right)\left(x^{5}+3\right)^{'}$

$$y^{'}\left(x\right)=\left(cosx-sinx\right)\left(x^{5}-3\right)+\left(sinx+cosx\right)5x^{4}=$$

$$=x^{5}cosx-x^{5}sinx-3cosx+3sinx+5x^{4}sinx+5x^{4}cosx$$